

ABSTRACT OF THE DISCLOSURE

Highly wear-resistant, low-friction ceramic composites suited for machining-tool, sliding-component, and mold-die materials are made available.

The ceramic composites characterized are constituted from a phase having carbon of 3 μm or less, preferably 30 nm or less, average crystal-grain size as the principal component, and a ceramic phase (with the proviso that carbon is excluded). The ceramic phase is at least one selected from the group made up of nitrides, carbides, oxides, composite nitrides, composite carbides, composite oxides, carbonitrides, oxynitrides, oxycarbonitrides, and oxycarbides of Al, Si, Ti, Zr, Hf, V, Nb, Ta, Cr, Mo and W. The ceramic composites are produced by sintering the source-material powders at a sintering temperature of 800 to 1500°C and a sintering pressure of 200 MPa or greater.